



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,973	07/09/2003	Kenneth S. Wales	END895-0511038	1299

7590 08/22/2005

FROST BROWN TODD LLC
2200 PNC Center
201 E. Fifth Street
Cincinnati, OH 45202-4182

EXAMINER

DURAND, PAUL R

ART UNIT	PAPER NUMBER
----------	--------------

3721

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TW

Office Action Summary	Application No.		Applicant(s)	
	10/615,973		WALES ET AL.	
	Examiner		Art Unit	
	Paul Durand		3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,8,12,13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8,12,13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/9/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5,7,8,12,13 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1,7,12 and 13, it is not clear to the examiner from the claim, which ^{and from the} plane the articulation takes place in. Furthermore, in claim 1 and 12 ~~ad form~~ the drawings it appears that the plane of movement is coaxial and not bisecting the axis of the longitudinal shaft. Applicant should consider defining the plane of movement in the independent claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3,5-8,12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green (US 5,312,023) in view of Bolanos et al (US 5,575,799).

In regard to claim 1, Green discloses the invention substantially as claimed including a surgical instrument comprised of a frame 52 with a handle portion attached

Art Unit: 3721

shaft in the form of elongated portion 54, and providing actuating and articulating motion, firing member 96 supported in the frame, means for rotation and actuation, end effector 58, distally and pivotally attached to the frame for articulation and responsive to actuation and an planetary gear train articulation mechanism 792 and 798 (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48). What Green does not disclose is the use of a spur gear and a mating gear section to articulate the end effector. However, Bolanos teaches that it is old and well known in the art of surgical tools to provide a shaft 103, with an articulation drive tube 40, and an articulation mechanism comprised of gear with teeth 41, engaging teeth 34 of a bevel gear mounted on the end effector 105, and aligned in an arc and equidistant from the pivotal axis of the end effector for the purpose of articulating a surgical tool (see Figs. 2,3 and C4,L24-57). Furthermore, while Bolanos teaches the use and layout of the gears which are reversed from the applicant's invention, it has been held that mere reversal of parts of the working device of an invention requires only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative means of articulation as taught by Bolanos for the purpose of articulating a surgical tool.

In regard to claim 2, Green discloses the invention substantially as claimed including a stapling and severing mechanism comprised of cam bars 286, 290 and knife 240, operated from the handle portion (see Figs 20, 21 and C11,L6-67).

Art Unit: 3721

In regard to claims 3 and 5, Green discloses the invention substantially as claimed including a closure in the form of anvil 715, coupled to end effector 706, firing bar 732, supported by support 730, articulation drive tube 710 and pivoting means comprised of planetary gear set 781, for converting rotational motion to articulating motion (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48).

In regard to claims 6 and 8, Green discloses the invention as claimed including a planetary gear set combination to articulate the end effector (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48). What Green does not disclose is the use of a spur gear and bevel gear combination to articulate the end effector. However, Bolanos teaches that it is old and well known in the art of surgical tools to provide a shaft 103, with an articulation drive tube 40, and an articulation mechanism comprised of spur gear with teeth 41, engaging teeth 34 of the end effector 105 for the purpose of articulating a surgical tool (see Figs. 2,3 and C4,L24-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative means of articulation as taught by Bolanos for the purpose of articulating a surgical tool.

In regards to claim 12 , Green discloses the invention as claimed including handle portion 52, with means for rotation and actuation, a shaft in the form of elongated portion 54, acting as a frame and articulation drive tube, end effector 58 and pivoting means comprised of planetary gear set 781, for converting rotational motion to articulating motion (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48). What Green does

Art Unit: 3721

not disclose is the use of a spur gear and bevel gear combination to articulate the end effector. However, Bolanos teaches that it is old and well known in the art of surgical tools to provide a shaft 103, with an articulation drive tube 40, and an articulation mechanism comprised of spur gear with teeth 41, engaging teeth 34 of the end effector 105 for the purpose of articulating a surgical tool (see Figs. 2,3 and C4,L24-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative means of articulation as taught by Bolanos for the purpose of articulating a surgical tool.

In regard to claim 15, the modified invention of Green discloses the use of a spur gear with straight teeth 41. What the modified invention of Green does not specifically disclose is the use of a beveled spur gear. However, the examiner takes Official Notice that it would have been a matter of design choice to provide a beveled spur gear in lieu of a straight-toothed spur gear for the purpose of articulating a tool.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative bevel gear arrangement for the purpose of articulating a tool.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green and Bolanos in further view of McGarry et al (US 5,289,963).

The modified invention of Green discloses the invention as claimed as applied to claims 1-3 above, except for the use of projected posts to join the end effector with the tool. However, McGarry teaches that it is old and well known in the art of surgical tools

Art Unit: 3721

to provide tabs (no number given, but next to reference number 89 in figure 15) mounted on end effector 16a and tabs (no number given, but next to reference number 76 in figure 15) mounted on a tool side 14 for the purpose of joining an end effector to a tool (see Fig. 15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Green with the mounting means as taught by McGarry for the purpose of joining an end effector to a tool.

Allowable Subject Matter

6. Claims 7 and 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The new rejection under 35 U.S.C. § 112, 2nd paragraph of claims 7 and 13 is a result of reconsideration of the layout and proper definition of the articulation planes as described above.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection and in light of the amendments to the claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Durand whose telephone number is 571-272-4459. The examiner can normally be reached on 0730-1800, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on 571-272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3721

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Durand
August 17, 2005



EUGENE KIM
PRIMARY EXAMINER